

Claims

What is claimed is:

5        1. A device for reducing vehicle aerodynamic  
resistance disposed on the rear end of a vehicle,  
having a generally flat rear end and a pair of  
swinging rear doors, the device comprising: a pair of  
airfoils swingably attached to opposite sides of the  
10      vehicle adjacent the rear end thereof; the airfoils  
being made of flat sheets of pliable material and  
having collapsible tension bearing struts attached to  
the sheets and to the adjacent rear door; the struts  
having a predetermined length; whereby when the doors  
15      are closed the sheets bend into an effective curved  
airfoil shape reducing the aerodynamic resistance of  
the moving vehicle and when the doors are opened the  
sheets flatten out between the sides of the vehicle  
and the doors allowing the doors to swing into an open  
20      position generally parallel to the sides of the  
vehicle.

2. A device as set forth in claim 1, wherein the  
airfoils are swingably attached to the sides of the  
25      vehicle by a plurality of hinges forward of the rear  
end of the vehicle.

3. A device as set forth in claim 1, wherein  
there is at least one stiffening member affixed to  
30      each flat sheet and disposed generally parallel to the  
flat rear end of the vehicle.

4. A device as set forth in claim 2, wherein each airfoil comprises two flat sheets, a first flat sheet attached to the hinges and a second flat sheet affixed to the first flat sheet, the first flat sheet being  
5 thicker and less pliable than the second flat sheet.

5. A device as set forth in claim 4, wherein there is at least one stiffening member affixed to the second flat sheet and disposed generally parallel to  
10 the flat rear end of the vehicle.

6. A device as set forth in claim 1, wherein the collapsible tension bearing struts are straps of synthetic fiber webbing.

15 7. A device as set forth in claim 5, wherein the collapsible tension bearing struts are straps of synthetic fiber webbing.

20 8. A device as set forth in claim 1, wherein the flat sheets are made of aluminum.

9. A device as set forth in claim 5, wherein the flat sheets are made of aluminum and the second flat  
25 sheet is sufficiently pliable to offer minimal resistance, if the vehicle is struck in the rear.

10. A device as set forth in claim 9, wherein the first and second sheets are riveted together.

30 11. A device for reducing vehicle aerodynamic resistance disposed on the rear end of a movable vehicle, having a generally flat rear end and a pair of swinging rear doors, the device comprising: a pair

of airfoils swingably attached to opposite sides of the vehicle adjacent the rear of the vehicle; the airfoils each being made of a first flat sheet of aluminum and a second flat sheet of aluminum; the  
5 second flat sheet having a plurality of stiffening members affixed thereto and disposed generally parallel to the rear edges of the sides of the vehicle and being thinner and more pliable than the first flat sheet; and a plurality of collapsible tension bearing  
10 struts attached to the stiffener members and to the adjacent rear door; the struts having predetermined lengths; whereby when the doors are closed the second sheets bend into effective curved airfoil shapes reducing the aerodynamic resistance of the moving  
15 vehicle and when the doors are opened the second sheets flatten out between the sides of the vehicle and the doors allowing the doors to swing into an open position generally parallel to the sides of the vehicle.